

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau(43) International Publication Date
24 July 2003 (24.07.2003)

PCT

(10) International Publication Number
WO 03/060068 A2(51) International Patent Classification⁷: C12N

JC Haren (NL). VAN DIJL, Jan, M. [NL/NL]; Sint Helenahof 24, NL-9617 EJ Harkstede (NL).

(21) International Application Number: PCT/US02/39634

(22) International Filing Date:
12 December 2002 (12.12.2002)

(74) Agent: MACKNIGHT, Kamrin, T.; Genencor International, Inc., 925 Page Mill Road, Palo Alto, CA 94304 (US).

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/348,080 9 January 2002 (09.01.2002) US
60/426,832 15 November 2002 (15.11.2002) US

(71) Applicant (for all designated States except US): GENENCOR INTERNATIONAL, INC. [US/US]; 925 Page Mill Road, Palo Alto, CA 94304 (US).

(72) Inventors; and

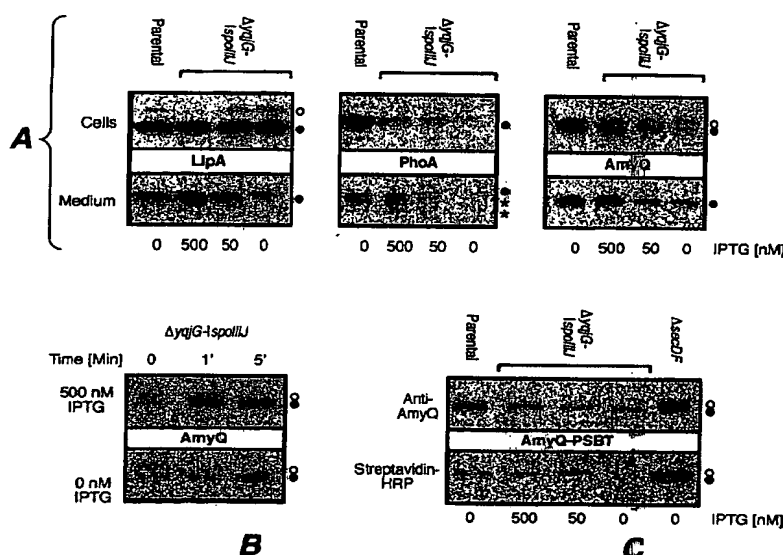
(75) Inventors/Applicants (for US only): BRON, Sierd [NL/NL]; Meerweg 104, NL-9752 JL Haren (NL). TJALSMA, Harold [NL/NL]; Tuindorppweg 49, NL-9753

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SI, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: OXA1P ENHANCED PROTEIN SECRETION



(57) Abstract: The present invention provides methods and compositions for the efficient and enhanced secretion of a protein of interest from a host cell. In specific, proteins are secreted through the Sec-dependent pathway, involving the *spoIIJ* and/or *yqjG* gene product(s). In some embodiments, expression of the *spoIIJ* and/or *yqjG* gene product(s) is modulated by a promoter operably linked to the gene.

BEST AVAILABLE COPY